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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,063	03/11/2004	Yoshinari Takayama	Q80008	4703

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EXAMINER	
BRUENJES, CHRISTOPHER P	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/797,063	TAKAYAMA ET AL.	
	Examiner	Art Unit	
	Christopher P. Bruenjes	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima et al (USPN 5,411,779).

Regarding claim 1, Nakajima et al anticipate a fixing belt (see abstract) comprising a tubular object made of a polyimide resin and at least one functional layer superposed thereon (see abstract and col.3, l.13-15). Note the limitation "the tubular object is molded by applying a polyimide precursor to a tubular mold, defoaming the precursor by centrifugal force, and then converting the precursor into an imide" is a process limitation in an article claim and therefore receives little patentable weight. Articles are defined by structural limitations and process limitations are only given weight insofar as the structural limitations that those process limitations provide. In this case, the structural limitations provided by the process

limitation include a tubular object that is molded from polyimide. Nakajima et al teach that the tubular object is molded by applying a polyimide precursor to a tubular mold and then converting the precursor into an imide (col.8, l.8-38). Regarding claim 2, the functional layer is a fluororesin release layer (see abstract and col.4, l.1-8). Regarding claim 3, the tubular object has a thickness of 10 to 150 micrometers and the functional layer has a thickness of 1 to 20 micrometers (col.7, l.65 - col.8, l.2), which overlap the claimed ranges. Regarding claim 4, the fixing belt inherently has a buckling strength of 40N or higher and a tear strength of 0.2N or higher, because the belt is made from the same materials having the same thicknesses, and because the fixing belt is used in the same manner and would require the same buckling and tear strength values in order to perform its function. Furthermore, Applicant's specification states that the thickness of the polyimide resin object is the most influential factor determining the buckling strength (see applicant's specification p.5). Nakajima et al teach the same thickness for the polyimide resin object so it is inherent that the buckling strength would be the same.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlueter, Jr. et al (USPN 6,201,945).

Regarding claim 1, Schlueter, Jr. et al anticipate a fixing belt comprising a tubular object made of a polyimide resin and at least one functional layer superposed thereon (col.5, l.1-5). Note the limitation "the tubular object is molded by applying a polyimide precursor to a tubular mold, defoaming the precursor by centrifugal force, and then converting the precursor into an imide" is a process limitation in an article claim and therefore receives little patentable weight. Articles are defined by structural limitations and process limitations are only given weight insofar as the structural limitations that those process limitations provide. In this case, the structural limitations provided by the process limitation include a tubular object that is molded from polyimide. Schlueter, Jr. et al teach that the tubular object is molded by applying a polyimide precursor to a tubular mold and then converting the precursor into an imide (col.9, l.17-47). Regarding claim 2, the functional layer is a fluororesin release layer or rubbery elastic layer such as silicone rubbers (col.9, l.60 - col.10, l.3). Regarding claim 3, the tubular object has a thickness of 25 to 150 micrometers (col.14, l.43-46) and the functional layer has a thickness of 55 to 125 micrometers (col.15, l.16-17), which overlap the claimed

ranges. Regarding claim 4, the fixing belt inherently has a buckling strength of 40N or higher and a tear strength of 0.2N or higher, because the belt is made from the same materials having the same thicknesses, and because the fixing belt is used in the same manner and would require the same buckling and tear strength values in order to perform its function. Furthermore, Applicant's specification states that the thickness of the polyimide resin object is the most influential factor determining the buckling strength (see applicant's specification p.5). Schlueter, Jr. et al teach the same thickness for the polyimide resin object so it is inherent that the buckling strength would be the same.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Satoh et al (USPN 5,532,056).

Regarding claim 1, Satoh et al anticipate a fixing belt (see abstract) comprising a tubular object made of a polyimide resin and at least one functional layer superposed thereon (see abstract and col.3, l.18-20). Note the limitation "the tubular object is molded by applying a polyimide precursor to a tubular mold, defoaming the precursor by centrifugal force, and then converting the precursor into an imide" is a process limitation in an article claim and therefore receives little patentable

weight. Articles are defined by structural limitations and process limitations are only given weight insofar as the structural limitations that those process limitations provide. In this case, the structural limitations provided by the process limitation include a tubular object that is molded from polyimide. Satoh et al teach that the tubular object is molded polyimide (col.3, l.18-20). Regarding claim 2, the functional layer is a fluororesin release layer or rubbery elastic layer such as fluorosilicone rubber (see abstract and col.3, l.26-27). Regarding claim 3, the tubular object has a thickness of 40 to 100 micrometers (col.3, l.21-25) and the functional layer has a thickness of 20 to 500 micrometers (col.8, l.42-45), which overlap the claimed ranges. Regarding claim 4, the fixing belt inherently has a buckling strength of 40N or higher and a tear strength of 0.2N or higher, because the belt is made from the same materials having the same thicknesses, and because the fixing belt is used in the same manner and would require the same buckling and tear strength values in order to perform its function. Furthermore, Applicant's specification states that the thickness of the polyimide resin object is the most influential factor determining the buckling strength (see applicant's specification p.5). Satoh et al teach the same

thickness for the polyimide resin object so it is inherent that the buckling strength would be the same.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamura et al (USPN 6,281,324) teaches defoaming of polyimide in the formation of a fixing belt. Seimiya et al (USPN 4,511,622); Schlueter, Jr. et al (USPN 6,063,463); Kitajima et al (USPN 5,759,655); Chen et al (USPN 6,0696,427); Schlueter, Jr. et al (UPSN 5,922,440); Finn et al (USPN 6,927,006).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes
Examiner
Art Unit 1772

CPB CPB
March 1, 2006

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/2/06